seals the lower chamber from the intermediate section and the upper chamber at the lower position; (b) a cylindrical cam structure co-axially connected to said plate, wherein said plate moves between the first position and the second position by rotation of the cylindrical cam structure; and (c) a rotary actuator for rotating the cylindrical cam structure,

said cam structure comprises (1) a cam cylinder having a cam groove which rotates with the rotary actuator, and (2) a support cylinder having a cam follower which support cylinder is attached to the plate and does not rotate, wherein the cam follower is fitted in the cam groove and moves vertically when the cam groove rotates, said support cylinder being provided inside the cam cylinder, wherein the plate, the cam cylinder, the support cylinder, and the rotary actuator are co-axial,

said groove spiraling around substantially one circumference of the cylinder, said groove comprising (I) an upper horizontal section for locking the plate at the upper position, where the cam follower is securely locked in the cam groove, (II) a lower horizontal section for locking the plate at the lower position where the cam follower is securely locked in the cam groove, (III) a straight middle section for moving the plate at a fixed rate, (IV) an upper transition section connecting the upper horizontal section and the straight middle section for moving the plate at a rate lower than the fixed rate, and (V) a lower transition section connecting the lower horizontal section and the straight middle section for moving the plate at a rate lower than the fixed rate, wherein the length of each section in a horizontal direction is (I)<(IV)<(III)>(V)>(II).

REMARKS

Claim 1 has been amended by incorporating the limitations of Claims 3 and 11 and further clarifying the invention. Support for the phrase "said groove spiraling around substantially one circumference of the cylinder" can be found in Figure 1(a), for example, wherein the groove starts and ends at substantially the same coordinate vertically. Support for the other changes can be found in the paragraph beginning at page 6, line 25, for example. The intended use language which is not significantly coupled with the structures has been deleted from Claim 1. Claims 3, 6, and 11 have been canceled without prejudice. Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE." Applicants respectfully request entry of the amendments and reconsideration of the application in view of the amendments and the following remarks.